

REMARKS

This is in response to the Final Office Action mailed September 12, 2007. Claims 7-10, 12 and 13 are pending in the application. Claim 10 has been amended.

Rejection Under 35 U.S.C. 112

Claim 10 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner has stated that it is not clear how the term “substantially” modifies “solvent free”.

Claim 10 has been amended to clarify that the coating composition is “substantially free of organic solvent.” In view of the amendment to claim 10, Applicant respectfully requests that the rejection under 35 U.S.C. § 112 be withdrawn.

Double Patenting Rejections

Claims 7, 12, and 13 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 4, and 5 of copending Application No. 11/625,394 (the ‘394 application).

Applicant respectfully submits that the double patenting rejection is improper under 35 U.S.C. § 121. A divisional application filed as a result of a restriction requirement shall not be used as a reference against the original application, if the divisional application is filed before the issuance of a patent on the other (original) application. (35 U.S.C. § 121.) Under such circumstances, §121 prohibits double patenting as a ground of rejection or invalidity. (MPEP § 804.01.)

The ‘394 application is a divisional of the instant application and was filed in response to a restriction requirement in the present application. In particular, the Examiner issued a two-way restriction to Group (I) claims 1-6 and 20 drawn to a thermal image receiving sheet, and Group (II) claims 7-19 drawn to a dye receiving coating composition. The Examiner restricted the claims as being drawn to distinct inventions because when the aqueous coating composition of Group I is used in a receiving sheet of Group II, the coating composition dries

and loses its identity. Applicant elected to prosecute Group II (claims 7-19) in this application. Claims 1-6 and 20 from this application were filed in a divisional application, which is now the '394 application. Claims 1, 4, and 5 in the '394 application are directed to a thermal image receiving sheet and still include the feature that was the basis for the restriction requirement. Therefore, under 35 U.S.C. § 121, the '394 application cannot be used to reject the claims in the present application. Applicant respectfully requests that the double patenting rejection be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

A. Rejections based on Ramello and Bayer Otto

Claims 7-8, 10, and 12-13 have been rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 5,529,972 to Ramello et al (Ramello) and U.S. Patent No. 3,479,310 to Bayer Otto et al (Bayer Otto). The Examiner contends that Ramello discloses a dye transfer coating composition comprising a water dispersible polyether-polyurethane resin, polyester-polyurethane resin, and multifunctional cross-linking agent. The Examiner states that Ramello cites Bayer Otto for examples of useful polyurethane lattices, including a polyurethane latex that is the reaction product of diisocyanate and linear polyhydroxyl compounds, wherein the polyhydroxyl compounds may be a mixture of polyether and polyester. The Examiner acknowledges that while the references teach a polyurethane having both polyester and polyether polyols in the polyurethane backbone, the amount of each polyol is not specified. The Examiner contends that it would have been obvious to arrive at the claimed (a):(b) ratio of claim 1 [claim 7] based on the motivation "it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum value or workable range involves only routine skill in the art."

Applicant respectfully disagrees with the Examiner's contention. Claim 7 recites that the aqueous coating composition includes (a) a water dispersible aliphatic polyether-polyurethane resin, and (b) a water dispersible aliphatic polyester-urethane resin wherein the weight ratio of (a) to (b) is in the range of 1:1 to 3:1. Contrary to the Examiner's statement, Ramello does not teach such a

combination. Ramello discloses a dye receiving layer that is an aqueous dispersion that includes a dye-accepting latex selected from polyurethane lattices, styrene-butadiene lattices, polyvinylacetoversatate lattices, and styrene-acrylic lattices. Ramello, however, does not disclose combining lattices in a dye receiving composition. The examples in Ramello only employ a single latex in the dye receiving compositions, and there is no other teaching that the dye receiving composition should include the combination of a polyether-polyurethane resin and polyester-polyurethane resin.

Bayer Otto does not make up for Ramello's deficiencies. The Examiner's reliance on Bayer Otto for teaching a combination of a polyether-polyurethane and a polyester-polyurethane is misplaced. Bayer Otto actually discloses lattices that are the reaction product of an isocyanate and a polyhydroxyl where the polyhydroxyl may be a mixture of polyhydroxy compounds such as polyethers, polyesters, and polyacetals. Such a reaction product would provide a single polyurethane latex with both polyether and polyester groups on the backbone. That polyurethane is not the claimed composition.

Moreover, in addition to failing to disclose the combination of the separate resins recited in claim 7, neither Ramello nor Bayer Otto disclose any ratios of components let alone a specific ratio of polyether-polyurethane resin to polyester-polyurethane resin in the range of 1:1 to 1:3. Because the combination of Ramello and Bayer Otto, and the general knowledge of those skilled in the art fail to teach or suggest the claimed composition, Applicant respectfully requests withdrawal of the rejection of claims 7-8, 10, and 12-13 under 35 USC §103(a).

C. Rejections Based on Ramello and Rhoades

Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ramello et al. in view of Rhoades et al. The Examiner contends that Ramello discloses a dye transfer coating composition comprising water dispersible polyether-polyurethane resin, polyester-polyurethane resin, and multifunctional cross-linking agent and that it would be obvious to modify Ramello with a polyfunctional aziridine as disclosed in Rhoades based on the motivation that both compositions are water-dispersible polyurethanes that are in contact

with dye compositions and polyaziridine improves the performance properties of the resulting cured coating.

Applicant respectfully disagrees with the Examiner's contention. As discussed above, Ramello discloses a dye receiving layer that is an aqueous dispersion that includes a dye-accepting latex selected from polyurethane lattices, styrene-butadiene lattices, polyvinylacetoversatate lattices, and styrene-acrylic lattices. Ramello, however, does not disclose combining lattices in a dye receiving composition. The examples in Ramello only employ a single latex in the dye receiving compositions, and there is no other teaching that the dye receiving composition should include the combination of a polyether-polyurethane resin and polyester-polyurethane resin.

Rhoades et al. do not cure the deficiencies of Ramello. Rhoades et al. do not disclose, teach or suggest a polyurethane receiving layer. Rather, Rhoades et al. disclose a receiver sheet made up of a supporting substrate, a receiving layer on one surface of the supporting substrate, and a dye-permeable release medium coated onto the receiving layer or incorporated into the receiving layer. (Col. 3, lines 11-23.) The receiving layer of Rhoades et al. comprises a polyester resin. (Col. 12, lines 30-47.) The dye-permeable release medium of Rhoades et al. is a silicone-urethane resin. (Col. 3, line 62-64, col. 6, lines 7-37.) The silicone-urethane resin may include an aziridine crosslinking agent. It is the polyester layer that receives the dye and the urethane-silicon resin of Rhoades that is dye-permeable, not dye receptive.

Even if there were some motivation to combine the urethane-silicon resin crosslinked with polyaziridine of the dye release medium of Rhoades et al. with the polyurethane latex of Ramello et al., the resulting composition would not be the composition of claim 9. Neither reference, alone or in combination, nor the general knowledge of those skilled in the art, teach or suggest an aqueous coating composition that includes (a) a water dispersible aliphatic polyether-polyurethane resin, and (b) a water dispersible aliphatic polyester-urethane resin wherein the weight ratio of (a) to (b) is in the range of 1:1 to 3:1. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 9 under 35 USC §103(a).

CONCLUSION

In view of the foregoing amendment and remarks, Applicants respectfully request reconsideration and a timely issuance of a notice of allowance for claims 7-10, 12 and 13.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988 under Attorney Docket No. **AVERP3525USB**.

Respectfully submitted,

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